Preserving Georgia's Historical Data:
**The Executive Clemency Online Application and Verification System as a Case Study in the Preservation of the Historical Records of Georgia E-Government**

Background & Context:

Within Georgia state government, there are two agencies whose customer base is made up of the remaining agencies of government: the Georgia Technology Authority (GTA) and the Office of Secretary of State through the Georgia Archives. The GTA is responsible for providing advice and assistance to government agencies in the areas of technical architecture, data administration, telecommunications infrastructure, and hardware and software procurement. The Office of Secretary of State, Georgia Archives (hereinafter referred to as the Georgia Archives) is responsible for providing records management advice and assistance to government agencies and for the promulgation of record keeping guidelines and standards.

For the past year, GTA and the Georgia Archives have worked together to create and issue standards and guidelines in the areas of document management, digital imaging, document workflow, and privacy–access to records. These efforts have formed the groundwork for a long-term strategic cooperation in its beginning phases: the Integrated Lifecycle Management of Georgia's Digital Resources. **Figure 1 (below)** describes integrated lifecycle management as a workflow of data creation, management, and disposition. This workflow is managed and controlled by legislative requirements, standards, policies, technology, and procedures at the statewide and agency levels.

Figure I.

Electronic Records Management: Lifecycle Model
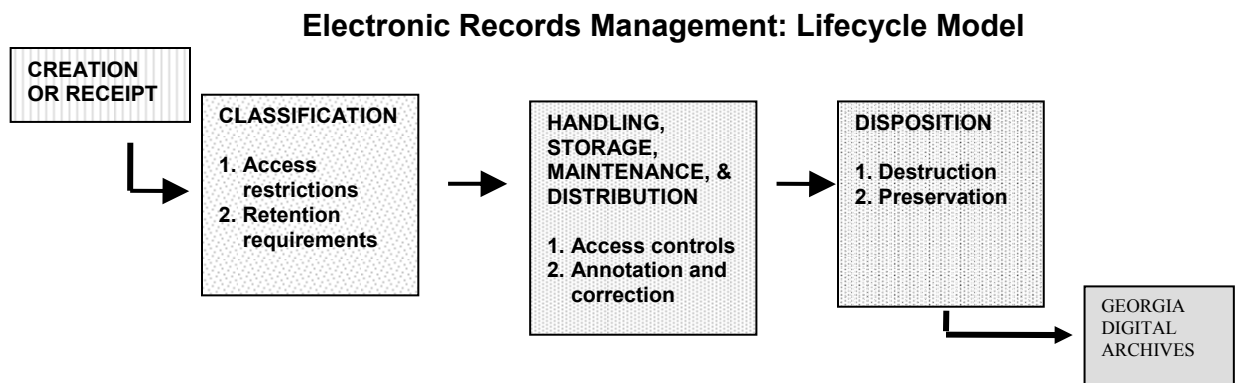
Introduction:

The preservation and accessibility of historical data is mission critical for the Georgia Archives as there is a daily risk of loss of valuable historical material. However, as a single entity of a large government, the Georgia Archives cannot hope to preserve all of the historical paper records, much less all of the historical data that currently exists. However, the use of non-custodial policies and repository-of-last-resort practices has failed to ensure the preservation of key electronic records. To accomplish its mandate to preserve the historical record of Georgia, the Georgia Archives now relies on a network of university archives, county archives, and local historical societies, all of which work together to preserve the state's abundant history. However, the Georgia Archives has sole mandate and responsibility for the preservation of the historical materials of Georgia state government, regardless of format.

In the past year, the Georgia Archives has successfully completed an NHPRC grant (a copy of the final report is attached) that involved studying the issues surrounding personal information, confidentiality, and access to government records in Georgia. Through a series of presentations and open discussions, state and local government administrators considered the issues involved in providing access to government records while protecting the privacy of individual citizens – represented by the Classification step of the lifecycle workflow.

The final component of the grant was the funding of a demonstration project illustrating how eXtensible Markup Language (XML) could be used to protect confidential data while providing necessary access to public records. The GTA agreed to match the funding provided by the Georgia Archives for this project. The demonstration project selected was the Executive Clemency Online Application and Verification System (ECOAVS) being implemented by the Board of Pardons and Paroles (a copy of the case study is attached). Clemency records are historical materials that have traditionally been transferred to the Georgia Archives for permanent retention. Containing a mixture of confidential and open information, they have always taxed the ability of the Georgia Archives to provide access to the public. Automation of the process provided an ideal opportunity to include privacy and access concerns in the design and implementation of the system.

Taking this project a step further, the Georgia Archives and the Board of Pardons and Paroles propose to implement the complete lifecycle management process (developed with the assistance of GTA) within the ECOAVS at the Board of Pardons and Paroles and, in addition, establish a process to ensure the secure transfer of these records into the custody of the Georgia Archives once they reach the end of their lifecycle. This project will serve as the implementation model of the lifecycle management process in the state of Georgia.

Purpose & Goals of Project:

Increasingly, the records that the Georgia Archives must preserve are in electronic format. To continue to meet statutory obligations, the Georgia Archives must gain experience and develop the processes needed to acquire, manage, and preserve archival information in electronic form. Using the ECOAVS as the basis for continuing a case study in the lifecycle management process, the Georgia Archives and the Board of Pardons and Paroles will expand and further develop the capabilities of system to include:

- The implementation of content management technologies (specifically a records management application) to track and monitor the clemency records;
- The verification of permanent data at the Board of Pardons and Paroles through the use of hash digests and other technologies;
- The transfer of electronic data and associated hash digests and metadata to the Georgia Archives for permanent retention;
- The verification of the completeness and accuracy of transferred data;
- The ingest of existing metadata associated with historical records;
- The development of a long-term preservation strategy for the data at the Georgia Archives; and,
- To open a dialogue regarding the implementation of content management technologies in all agencies of state government.

The goals of this project are:

1. To elicit discussion of the conceptual, economic, and technological restraints on electronic records management and preservation with other state agencies;
2. To cooperate with the Board of Pardons and Paroles to implement an electronic record keeping system and to devise processes for the transfer of reliable archival information to the Georgia Archives;
3. To publish a case study of the development of an agency record keeping system as an example to Georgia government;
4. To issue policies and procedures regarding the transfer of archival information for use by state government agencies; and,
5. To develop a preservation strategy for archival information in the custody of the Georgia Archives.

About ECOAVS:

The Executive Clemency Online Application and Verification System (ECOAVS) was developed using open source software almost exclusively (purchased components consisted of Adobe Acrobat and signature capture software for a single user). The system incorporates two java based applications (one for external users and one for authorized agency users) that connect to a single

XML database through the use of a web browser. Internal users are authenticated against a central agency directory via Local Directory Access Protocol (LDAP) to determine the access level granted to the individual user. External users and internal users without an appropriate access level are authorized only to submit an application for clemency or to query the status of an application. In order to further control access to this group of users, the last name, date of birth and last four digits of the social security number are required information when querying the system for the status of an application. Those external users that have access to this information (predominantly the applicant, prospective employers or law enforcement officials) have the ability to verify the status of an application and even view or print a copy of the document presented in Adobe PDF format.

The system allows original documents to be generated from data stored in the XML database, signed through a signature capture device and stored in Adobe PDF format. At the time the original document is saved, electronic validation codes are generated that may be used to compare any electronic copy of the document to the code generated when the document was first saved. If the code generated when the electronic copy is tested exactly matches the code stored in the system, it is a true copy. If the resulting code does not match, the copy has been altered in some way.

Significance and Relationship to NHPRC Goals and Objectives

This project fits into the category of "Action" identified in NHPRC's *Research Issues in Electronic* Records. The project will build on a highly successful demonstration project from the Privacy and Access in Georgia E-Government grant to expand the EVOACS application into an electronic record keeping application capable of ensuring the creation and maintenance of an authentic, reliable record that can be transmitted to the Georgia Archives for storage as a historical record of the state. This project will serve as an example that can be replicated throughout Georgia government to ensure the preservation of historical data and will provide the capabilities needed by the Georgia Archives to acquire and preserve the electronic records of Georgia state government.

This project addresses research question number one identified in NHPRC's *Research Issues in Electronic Records* – "What functions and data are required to manage electronic records in accord with archival requirements?". In addition, it addresses a key recommendation from the June 2003 *Electronic Records Agenda Project Final Report* by the State Archives Department of the Minnesota Historical Society by providing a focused initiative to implement an electronic records transfer and preservation strategy in Georgia and by providing a state government level case study for the implementation of Open Source software as a record keeping tool that can be replicated many times over in the state and the nation.

Plan of Work for Grant Period:

While many archives stipulate that all permanent records transferred to their custody be on paper or microform, some are allowing the creating agencies to maintain public records in electronic format as long as the agency ensures that the records are not rendered unusable because of changing technologies before their retention requirements are met. This decentralized approach assumes the state agencies will be able and willing to migrate permanent data as technology changes. Following this model, electronic records would be transferred to the archives only as a last resort should the creating agency cease to exist or be unable to maintain accessibility to the records.

Its traditional role in preserving the state's historical records has made the Georgia Archives the point of contact for the public seeking access to most non-current records of state government. Because electronic records can be stored more compactly and accessed more easily, individual agencies may wish to keep electronic data longer than they have maintained comparable paper records. As data ages, and on-line access becomes less mission-critical, the expense of data-migration would make guaranteeing continued accessibility of non-current data less cost-effective for the agency. Rather than risk the loss of permanent electronic records, it seems likely that the Georgia Archives will bear the responsibility for long-term retention of the state's historical data. Clearly, new techniques and strategies for long-term preservation for electronic records must be implemented if the Georgia Archives is to continue to meet its legally mandated responsibilities. Records schedules need to be re-examined, and the process through which records are transferred to the Archives needs to be reassessed in light of new technologies. In addition, a coherent plan for the preservation of these historical records must be formulated.

The grant project will take eighteen months to design, implement, and test. The project proposes to hire a network administrator for the duration of the grant project. This position will be responsible for the installation and maintenance of the selected software application, will participate in the design of a preservation strategy, and will ensure that in-house IT staffs in both agencies are prepared to manage the system at the end of the grant. Should the grant be awarded, the Georgia Archives and Board of Pardons and Paroles will have advertised, interviewed, and hired staff through use of the state's staffing contracts by March 2005. Specifications for a records management application will be identified by the Georgia Archives and Board of Pardons and Paroles and with the advice and assistance of GTA, an application will be purchased by May of the grant period.

The practical phase of the project will begin with the implementation of the selected records management application in June. The project teams will meet to outline process workflow, to identify metadata currently being collected by the

Board of Pardons and Paroles and determine if any added data elements are needed to meet the requirements for archival description of the Georgia Archives. Like all government agencies, the Board of Pardons and Paroles maintains a variety of electronic records, including word processing files, imaged records, and Oracle databases. This project focuses on the clemency record which consists of a combination of imaged and database records. During the implementation phase and throughout the remainder of the project, project teams will hold progress meetings to discuss the requirements established for the maintenance and preservation of the clemency records and how these requirements may be expanded to cover all historical electronic records of Georgia government.

In March and again in July 2005, the project proposes to bring in an electronic records consultant to work with project staff of the Georgia Archives and the Board of Pardons and Paroles on the development of a preservation strategy. The consultant will be experienced in electronic records preservation from both a theoretical and practical perspective and preferably, have considerable experience in working with government. In March, the consultant will share information about problems with electronic record keeping from a theoretical perspective, dealing with such issues as system dependencies, and using metadata to preserve context along with the digital information. In July, the consultant will address the problem of securing data integrity and reliability over time, primarily with the Georgia Archives project team, but all teams will be invited to participate. The consultant will spend a total of six (6) days with the project staff. The goal of the project is to have a fully developed preservation strategy and transfer process that will be tested and implemented by the project's end. The goal of the consultant will be to act as a sounding board for the ideas of the project staff and to ensure that project goals are in accordance with the current theoretical and technological thinking on electronic record keeping issues.

In August, a second consultant, specializing in the use of XML as an archival preservation and access tool, will provide training to the Georgia Archives staff. This training will serve to bring the entire Georgia Archives project team to the same level of understanding of the potential uses of XML in a strategy for the preservation of electronic records. The consultant will spend a total of four (4) days with the project staff. In addition to providing training, the consultant will participate in at least one meeting of the project team to review and comment on preservation policies already in draft form by August.

Beginning in April 2005, the Georgia Archives project team will undertake a systems and records analysis and appraisal of the ECOAVS as part of an evaluation of the current scheduling process. While the Board of Pardons and Paroles already systematically documents its information systems, and the appraisal is unlikely to change the existing identification of the record as permanent, the evaluation will serve to identify gaps in the current scheduling

process and will assist in the identification of needed information for the transfer process. If time allows, this analysis and evaluation will be expanded to include other long-term records systems of the Board of Pardons and Paroles, namely the parole records which are in the process of being scanned and stored as digital images. Currently, the parole records are a highly voluminous paper-based record series that is routinely transferred to the State Records Center (several thousand cubic feet are currently being stored by this unit of the Georgia Archives) for storage of up to twenty (20) years. Scanning of these long-term records presents its own problems and the project teams hope to include these records in the analysis phase of the project in order to propose policies and procedures that will ensure the maintenance of a reliable record. It is entirely possible that system analysis will reveal historical information embedded within the parole record that was overlooked in previous evaluations of the paper-based systems and which the Georgia Archives would like to preserve. In addition, this analysis would assist in the development of several statewide guidelines and policies on document management currently being worked on by the Georgia Archives.

Record layouts, code books, user guides, system specifications, data dictionaries, procedural manuals, and security procedures as well as legal, evidential, and informational value of records will be documented. The systems analysis will look at information flows and technical specifications of the application. The records analysis and appraisal will address the agency description, legal authority, financial and audit requirements, and historical significance of the records. Also collected will be details of the metadata being captured by the Board of Pardons and Paroles to describe the clemency record. The analysis will be completed by June 2005 and the information evaluated to determine what changes are needed within the scheduling process to ensure the identification of historical data. Results of the analysis will allow the Board of Pardons and Paroles to revise or issue policies and procedures in support of the implementation of the records management application.

Beginning in July 2005, the project teams will look at the gathered information to determine how data might be transferred to the Georgia Archives. The ultimate goal is for such transfers to occur electronically and for all associated metadata and verification data to be transferred along with the records. Requirements for archival metadata will be identified and compared to existing metadata collection beginning in August. In November, the process will be tested and verification procedures will be developed at the Georgia Archives to allow for the comparison of what was transferred versus what was received.

In December, a final test consisting of a series of test transfers between the two agency systems will begin. Final procedures and requirements for the transfer of historical electronic records will be developed and distributed to state government agencies by March 2006. To complete the grant project, the two systems will run parallel implementations for the purposes of testing, debugging,

and evaluation. This phase of the project will be completed by March 2006. The project case study will be prepared for distribution by May. To complete the project, the Georgia Archives will ask the National Association of Government Archives (NAGARA) and Records Administrators and the Council of State Historical Records Coordinators (COSHRC) for an opportunity to make presentations of the project results. Sessions at the Government Technology Conference in November of 2006 and at a meeting of the Georgia Document Management Association will likely follow.

Plan of Work: Outline by Project Team

Georgia Archives and Board of Pardons and Paroles (items completed primarily by a single project team are noted in parentheses):

1. Advertising/interviewing/hiring project employees (network administrator): mid-January – March 2005
2. Consult with GTA on software functionality, specifications, and the purchase process: February 2005
3. Identify software functionality and specifications: March – May 2005
4. Purchase records management application to track and monitor data: May 2005
5. Purchase and install project servers: May 2005
6. Implement records management application: June - November 2005
7. Conduct a system and records analysis of the clemency application as a basis for evaluating the current scheduling process: April – July 2005
8. Determine any policy and procedural changes needed for successful implementation of a records management application: (May – July 2005) (Board of Pardons and Paroles)
9. Meet to identify metadata currently collected: June - July 2005
10. Train project staff on operation of records management application: July 2005
11. Consultant in electronic records theory and technology to speak to project staff: March and July 2005
12. Consultant in XML technology to speak to project staff: August 2005
13. Conduct planning meetings outlining preservation strategy for electronic records: July – October 2005 (Georgia Archives)
14. Determine requirements for archival metadata: August – September 2005 (Georgia Archives)
15. Outline process for accepting digital records: October 2005
16. Test process: November 2005
17. Implement transfer process: December 2005
18. Run parallel implementations of records management application for testing, debugging, and evaluation: January – March 2006
19. Draft procedures and notify state government agencies of procedures: March 2006 (Georgia Archives)

20. Propose a session to be presented at July 2006 NAGARA and COSHRC: December 2005 /January 2006
21. Coordinate monthly joint progress meetings between partners and participants: occurs throughout grant
22. Complete case study of project for publication by grant partners and sponsors: May 2006
23. Print and distribute case study: May 2006

Products:

- Case study of project development
- Fully implemented life-cycle management process within web-based ECOAVS
- Implementation at Georgia Archives of preservation methodology and processes for the transfer and accessibility of historical data
- Written preservation methodology and procedures for transfer of electronic data from state government agencies
- Possible program sessions at annual meetings of grant partners, at COSHRC, and at NAGARA

Key Personnel:

To be hired:
Network administrator, temporary contract position will be shared between the two main project agencies for duration of grant. The Network administrator will be responsible for coordinating the implementation and maintenance of the selected records management application and development and testing of the archival transfer process.

Electronic Records Theory and Technologist Consultant will visit the project teams for a total of six (6) days – two visits of three (3) days each. The consultant will participate in a series of planning meeting to assist in the development of a preservation strategy for Georgia's historical electronic records.

XML Consultant will provide training to the Georgia Archives staff in the use of XML as an archival preservation and access tool. This training will serve to bring the entire Georgia Archives project team to the same level of understanding of the potential uses of XML in a strategy for the preservation of electronic records. This consultant will visit the project team for a total of four (4) days.

Georgia Archives
- Project Director – David W. Carmicheal
- Project Coordinators – Amelia Winstead and Andrew S. Taylor
- Project Team – Christine Wiseman, Sigi Konieczny, and Elizabeth Barr

Project Director, David W. Carmicheal

David Carmicheal is the Director of the Georgia Archives. Prior to coming to Atlanta in November 2000, Mr. Carmicheal worked for 16 years as the Director of Knowledge Management, Records and Archives for Westchester County, New York. During Mr. Carmicheal's tenure the program won two awards from the National Association of Counties for outstanding government programming, several state and national awards for innovative programming, and the New York State Board of Regents award for excellence in teaching with historical records.

As Director of the Georgia Archives, Mr. Carmicheal has been instrumental in the design and development of the new archives building in the city of Morrow. He has strengthened the Archives' commitment to public service; expanded online access to historical records; worked with state agencies to preserve electronic records; and increased efforts to make Georgia's historical records available to all Georgians, including scholars, genealogists, students, and interested citizens.

Mr. Carmicheal received his Bachelor's degree in History and English from Asbury College and his Master's degree in History and Archives from Western Michigan University. Mr. Carmicheal has been an adjunct professor in the archives programs of New York University and Long Island University and has served as a consultant to state and local governments and to many corporations, including the Banker's Trust Company, Cartier, the Children's Television Workshop, and Jim Henson Productions. He has served as an officer and on committees of numerous professional organizations.

Project Coordinator, Amelia Winstead

Amelia Winstead has worked at the Georgia Archives since September 1999 when she joined the staff as the Local Government Services Coordinator with the Records and Information Management Services (RIMS) office. Past and current duties include coordinating the local government arm of the Georgia Historical Records Advisory Board's grant program, providing training to local government officials on a variety of records management and record keeping topics (including preservation and maintenance of electronic records and privacy issues), conducting on-site consultative visits with county and municipal officials, and maintaining the local government retention schedule guidelines and other publications. In July 2000, she added to her responsibilities by becoming supervisor of the combined State and Local Government Services section of RIMS. As supervisor of this section, she is responsible for providing assistance to all government officials in the management and preservation of records in all media. She served as project coordinator for the Georgia Archives during the Privacy and Access to Georgia E-Government grant project.

Ms. Winstead was previously employed by the Alabama Department of Archives and History. Hired in 1989, in 1994, she became head of the State Government Records and Electronic Records sections and was responsible for providing assistance to state government officials in the management of records in all media. She received her Bachelor's degree in Art History from Mississippi University for Women and her Master's degree in Archival Administration from North Carolina State University.

Project Coordinator, Andrew S. Taylor

Andrew S. Taylor has worked at the Georgia Archives since January 1995 when he joined the staff as the assistant director for Records and Information Management Services at the Georgia Archives. In this position, he is responsible for the administration of the State Records Center and the State & Local Government Services program which provide records management advice, assistance, and storage of temporary records to government agencies. Mr. Taylor served as a project facilitator and presenter during the Privacy and Access in Georgia E-Government grant project. Mr. Taylor was previously employed by the New Hampshire Division of Archives and Records Management where he served as State Records Manager. He received his Bachelors degree in History from the University of New Hampshire.

Project Team, Christine Wiseman

As Preservation Services Manager since 2002, Christine Wiseman is responsible for planning, developing and implementing a comprehensive program for the preservation of the collections of the State Archives of Georgia. Formerly she was Education Officer in Preservation Services for the Southeastern Library Network and was responsible for coordinating outreach, education, and information services on the preservation of library and archival materials. She has taught on a wide range of topics including disaster preparedness, book repair, digital imaging, and preservation management. She is active in the Preservation and Reformatting Section of the American Library Association and the Society of Georgia Archivists. Prior preservation experience includes positions at the University of Texas at Austin and the New-York Historical Society. She has a MLIS and specialization in preservation administration from The University of Texas at Austin.

Project Team, Sigurd E. "Sigi" Konieczny

Sigi Konieczny is a long-time employee of the Georgia Archives and has served as a Records Management Officer, Manager of the State Records Center, Associate Operations Analyst and currently a Records Management Analyst. Past and current duties include referencing state agency records, supervising and monitoring the purchasing bid process, receipt, and processing of invoices to ensure payment is made according to the Georgia Prompt Payment Law.   Mr.

Konieczny currently serves as a Records Management Analyst for the Georgia Archives reviewing and analyzing agency record keeping systems and practices to establish retention schedule and identify historical government records. He disseminates records management information and present training sessions to state and local governments, works on special projects, and coordinates the transfer of historical records to the Georgia Archives. Sigi has a Bachelor of Arts in Public Administration from Brenau University.

Board of Pardons & Paroles
- Project Director – Michael Fleming
- Project Coordinator – Walt Davis and Anthony Mazza
- Project Assistants – Linda Winston

Project Director, Michael Fleming

Michael Fleming is the Director of the Clemency and Parole Selection Division of the State Board of Pardons and Paroles. He has an extensive background in the field of parole and probation beginning with his employment by the Department of Offender Rehabilitation in 1972. In 1975, he moved to the Department of Corrections to become a counselor and in 1977 he moved to the Board as a Hearing Examiner. Having been with the Board in a variety of positions since 1977, he was promoted to his currently position in the Clemency and Parole Selection Division in 2004 where he heads up the operations of the division and its 84 employees.

Project Coordinator, Walt Davis

Walt Davis is the Assistant Director of the Clemency and Parole Selection Division of the State Board of Pardons and Paroles. He is a career employee of the Board, beginning his employment as a Parole Officer in 1984, six weeks after graduating from Mercer University in Macon, Georgia, with a dual major in History and Political Science.

After supervising a case load of parolees for five years in the Marietta Parole Office, he was promoted to a Hearing Examiner position in the Clemency Division in 1989. In 1995 he was promoted to his current position as Assistant Director where he has management responsibility for the day to day operations of the division and its 84 employees. Most recently he has the additional responsibility of the project manager for the development and conversion of the Board's Clemency files and consideration process to a paperless, electronic data management system.

Project Coordinator, Anthony Mazza

Anthony Mazza joined the Board of Pardons and Paroles in November 1990 when he was hired as a parole officer. Following the completion of security

assignments at the 1996 Olympic and Paralympics Games, he was promoted to the position of Operations Analyst in Research and Evaluations unit of the central office. He was promoted twice more until in 2000 he became the Assistant Director for Research and Evaluation. In June of 2001, he was reassigned to the Information Technology and Services group as Assistant Director of the unit. Past and current duties include providing functional services in the planning and design of databases, business process analysis, re-engineering of existing applications to take advantage of new technologies, software development, and development and implementation of services to the agency.

Mr. Mazza received a Bachelor's degree in Psychology from North Georgia College (now North Georgia College & State University) and is currently completing his Masters in Computer Science at Southern Polytechnic State University.

Project Team, Linda Winston

Linda Winston joined the Board of Pardons and Paroles in 1987 in the Field Services unit. Prior to this she worked with the state of Ohio school system in the area of special education. Her career in Georgia began in July 1985 when she joined the Telecommunications unit of the Department of Administrative Services. In her current position, Ms. Winston is the manager of pardon administration with the Clemency and Parole Selection Division of the State Board of Pardons and Paroles. Ms. Winston received her Bachelor's degree in Special Education from Central State University in Wilberforce, Ohio.

Budget

The Georgia Archives requests $187,581 in grant funds to be used for the purchase and development of a technology application and processes that ensure the maintenance of reliable historical records within an agency environment and that enable the transfer and preservation of those records in the Georgia Archives.

The Georgia Archives, its grant partners, and sponsors will provide $268,379 as in-kind contributions and $18,817.00 in cash match as follows:

Georgia Archives	8,659.00
Board of Pardons & Paroles	8,658.00
Georgia Document Management Association	
	1,500.00
Total:	18,817.00

Additional cash match and personnel support is expected to be provided by the Georgia Technology Authority. The GTA was unable to commit funds prior to the beginning of the new fiscal year in July.

Attachments:
1. Final Report of NHPRC Privacy and Access Grant
2. Case Study, Executive Clemency Online Application and Verification System: Implementing Secure Access to Confidential Information
3. Resumes
   a. Georgia Archives Team:
      i. David W. Carmicheal
      ii. Amelia Winstead
      iii. Andrew S. Taylor
      iv. Christine Wiseman
      v. Sigi Konieczny
   b. Board of Pardons and Paroles Team:
      i. Michael Fleming
      ii. Anthony Mazza
   c. Network Administrator Position Description